

ABSTRACT OF THE DISCLOSURE

A method and apparatus for trimming a high-resolution digital-to-analog converter (DAC) utilizes floating-gate synapse transistors to trim the current sources in the DAC by providing a trimmable current source. Fowler-Nordheim electron tunneling and hot electron injection are the mechanisms used to vary the amount of charge on the floating gate. Since floating gate devices store charge essentially indefinitely, no continuous trimming mechanism is required, although one could be implemented if desired. By trimming the current sources with high accuracy, a DAC can be built with a much higher resolution and with smaller size than that provided by intrinsic device matching.